

## Fear information and social phobic beliefs in children: a prospective paradigm and preliminary results

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# **FEAR INFORMATION AND SOCIAL PHOBIC BELIEFS IN CHILDREN: A PROSPECTIVE PARADIGM AND PRELIMINARY RESULTS**

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## **ABSTRACT**

This paper presents a first attempt to develop a prospective paradigm to test Rachman's (1977) theory of fear acquisition for social fears. Following the prospective paradigm for animal fears developed by Field, Argyris & Knowles (2001) an attempt is made to adapt this paradigm to look at the effect of fear information in the development of social fears. A large group of normal children ( $N = 135$ ) who were at an age (10-13) at which social concerns are most pertinent were tested using this paradigm. They were given positive, negative or neutral information about three social situations: public speaking, eating in public, or meeting a new group of children. Children's fear beliefs were measured before and after the information was given and the information was given by a teacher, a same age peer or no information was given (a control). The results indicate that although information can change social fear beliefs it is dependent upon the type of social activity and who provides the information. The implications of these initial results for our understanding of both the role of fear information in the development of social fear beliefs, and the limitations of this current paradigm are discussed.

Fear information has long been assumed to play a major role in the acquisition of phobias (Rachman, 1977). Although there is some evidence that adult phobics (Ollendick & King, 1991; Muris, Merckelbach, Gadet & Moulaert, 2000) and anxious children (Ollendick & King, 1991) will attribute their fear, at least in part, to negative information most of the available evidence is based upon retrospective accounts. These reports are often made some 10-20 years after the onset of their phobia and so are prone to memory bias and forgetting of potentially important learning episodes (see King, Gullone & Ollendick, 1998). Although improvements have been made such as corroborating patient evidence with retrospective parental reports (e.g. Merckelbach, Muris & Schouten, 1996), a better approach is to look at the effect of information prospectively. Field, Argyris & Knowles (2001) developed such a paradigm: In two experiments, 7–9 year olds received either positive or negative information about previously un-encountered monsters. Field et al.'s results demonstrated that children's fear beliefs towards the monster about which they'd received negative information significantly increased. What's more, these effects were stronger when an adult provided the information—when a peer provided the information fear beliefs did not change significantly. These effects can also be found when real animals (unfamiliar to children in the UK) are used as stimuli. For example, Field, Bodinetz, & Howley (2002a) and Field, Chambers, Cantwell, & Gladman, (2002b) used Australian marsupials (the quoll, quokka and cuscus) as stimulus materials and found that negative information significantly increased children's fear beliefs. Also, Muris, Bodden, Merckelbach, Ollendick & King (in press) recently adapted Field et al.'s (2001) paradigm and showed that the effect of negative information would persist a week after it was given.

These prospective studies have all been limited to the use of negative information to change fear beliefs about animals. This study extends Field et al.'s work to look at how negative information might affect fear beliefs about social situations. Normative fears about social situations are at their highest during early adolescence (Field & Davey, 2001), and social phobia typically develops at this age too, so an older sample than that of Field et al. (2001) was used for whom negative information about social situations would be pertinent. It is hypothesized that negative information should affect fear beliefs about social situations and,

because of the importance of peers during early adolescence, there should be an effect when a peer provides the information (unlike in Field et al.'s, 2001, younger sample).

## Method

### Design

Three different sources of information were used in this experiment: a teacher, a peer and a control condition (in which no information was given). Three different social situations were also used: eating in public (eat), giving a talk to a large group (public speaking), or meeting a new group of people (group). For a given group of children they would be given positive information about one activity, negative information about a different activity and neutral information about the final activity. The type of information associated with each activity was counterbalanced across groups.

### Participants

135 children aged 10-13 years ( $M = 11.51$ ,  $SD = 0.65$ ) took part. This age range was selected because normative fears are focused on social concerns at this developmental period. Children were recruited from three schools in the UK ( $N = 45$  for each school). The female:male ratio was approximately matched across groups: 22:23 (teacher condition), and 24:21 (peer and control conditions). Children were tested in groups and parental consent was obtained.

### Materials

*Stories:* Three social activities were selected that are the most pertinent topics for social anxiety in 12-17 year olds (Essau, Conradt, and Petermann, 1999): public speaking, public eating and meeting a new group of children. For each situation a positive story, a negative story and a neutral story were constructed with the help of teachers. Therefore, nine stories were constructed in all (see Appendix A).

*The Fear Schedule Survey for Children – Revised:* The FSSC—R (Yule, 1997) contains 98 items to which children indicate whether they have 'none', 'some', or 'a lot' of fear. This survey is a commonly used measure of child anxiety (see King et al., 1998) and has good generalisability across cultures (Ollendick, 1983).

*Social Fear Beliefs Questionnaire (SFBQ)*: The SFBQ consisted of 18 items measuring attitudes towards different social situations using a 5-point Likert scale from -2 (very sad/disagree) to +2 (very happy/agree). Six items referred to public speaking, six to eating and six to meeting a new group of children (see Appendix B)—questions were randomly ordered. The average score for each social situation, which ranged from 1-5, was used for data analysis.

### Procedure

The children were divided into three groups of 45: (1) Teacher condition: a teacher read the stories; (2) Peer condition: a fellow student read the stories; and (3) Control: the children received no stories. Each of these groups was subdivided into three groups for different counterbalancing orders. First, the FSSC-R was administered to all the children. When all the questionnaires had been completed, the children were given the social fear-belief questionnaire to complete for the first time. An example of how to score the items was given. They were told to consider each social situation carefully and to give an individual response. When the questionnaires were completed, the children were randomly allocated to one of nine groups: (1) Teacher (Order 1) heard the positive story about public speaking, then the negative story about eating and finally the neutral story about meeting a group of children; (2) Teacher (Order 2) heard the neutral story about public speaking, then the positive story about eating and finally the negative story about meeting a group of children; (3) Teacher (Order 3) heard the negative story about public speaking, then the neutral story about eating and finally the positive story about meeting a group of children. Groups 4–6 were the same but a peer read the stories, and groups 7–9 were the same but actually no stories were read (in this final case the allocation to a counterbalancing group was to balance the design, and did not actually affect the type of information associated with each activity). After the stories had been read, the children completed the social fear-belief questionnaire for a second time. The children were fully debriefed after the experiment.

### **Results**

Figure 1 shows the mean fear beliefs before and after information for the three different activities depending on whether the information was positive, negative or neutral and whether

it was presented by a teacher, a peer or not presented at all. For the group activity all fear beliefs increased, regardless of the source of information or the type of information—Even when no information was given. Generally in the control group fear beliefs remain unchanged, as we would expect. When the teacher was the source of information, negative stories seemed to have little impact, but when peers were the source of information for public speaking, negative information appeared to have the reverse effect to that predicted: it reduced fear beliefs whereas positive information increased them.

A four-way 3 (source of information: teacher, peer, control)  $\times$  3 (negative information: public speaking, eating, group)  $\times$  3 (activity: public speaking, eating, group)  $\times$  2 (Time: before vs. after stories) mixed ANCOVA was conducted on the data, with repeated measures on the last two variables and FSSC-R scores as the covariate. The negative information variable tells us which activity was associated with negative information (and from the counterbalancing orders we can tell the type of information associated with the other activities). If different types of information have changed beliefs about the different activities then we expect an interaction between negative information, the type of activity and the time at which beliefs are measured. Any main effects and lower order interactions are not of direct interest (see Field, 2000) and are not reported<sup>1</sup>. The activity  $\times$  time  $\times$  negative information was not significant ( $F < 1$ ), however, the source  $\times$  activity  $\times$  time  $\times$  negative information ( $F(8, 250) = 2.95, p < .05$ ) was. This shows that there were changes in fear beliefs over time that depended on both the activity and the type of information associated with that activity, and this in turn was affected by the source of information. To break down this interaction term separate three-way 3 (source of information: teacher, peer, control)  $\times$  3 (information type: positive, negative, neutral)  $\times$  2 (time: before, after) mixed ANCOVAs were performed on each activity, with the FSSC-R scores as the covariate. The effect of interest in each analyses was the time  $\times$  source of information  $\times$  information type interaction, which was significant for public speaking ( $F(4, 125) = 3.90, p < .01$ ) but not for eating ( $F < 1$ ) or group activities ( $F(4, 125) = 2.40, ns$ ).

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<sup>1</sup> For a more detailed write-up of the results contact the first author.

Planned comparisons were performed (see Field, 2000) on the three-way interaction for public speaking. The first contrasts compared changes in fear beliefs when the teacher was the source of information relative to the control group. Within this comparison, there were no significant differences when positive information was given relative to negative information, when negative information was given relative to neutral information, or when positive information was given relative to neutral information (all  $ps > .05$ ). A second set of contrasts examined changes in fear beliefs when a peer was the source of information relative to the control group. There was a highly significant effect of information when positive information was given relative to negative information ( $CI_{.95} = -1.44$  (lower),  $-0.30$  (upper),  $t = 3.88$ ,  $p < .001$ ). This effect of positive information relative to negative information was also highly significant when comparing peers as a source of information to teachers ( $CI_{.95} = -1.16$  (lower),  $-0.02$  (upper),  $t = -2.61$ ,  $p < .05$ ). From Figure 1, this shows that for public speaking negative information actually decreases fear beliefs whereas positive information increases them.

## Discussion

The most important contribution of this study is to describe a prospective paradigm in which to look at how social fear beliefs develop in children. Recent prospective paradigms such as Field et al. (2001, 2002a,b) have focussed on animal fears, so this current study is important in starting to develop a similar paradigm for the social domain. The results do show some interesting things, but also illustrate the need for refinements to the paradigm. The main finding was that giving information about certain activities does effect fear beliefs about these activity but the effects depend upon both the activity about which the information was given and the source of that information. Specifically, information about group situations and eating in public appeared to have no selective effect on fear beliefs. However, the information about public speaking did effect fear beliefs but only when the information was given by a peer. Interestingly, this effect was opposite to what we might expect: negative information reduced fear beliefs, and positive information increased them.

A pessimistic conclusion from this study is that fear information is not, in general, a viable pathway for acquiring social fear-beliefs. However, aside from the dangers of drawing



conclusions from null results, this is not an attractive conclusion given that the power of fear information about animals has been demonstrated (Field et al., 2001, Muris et al., in press). If fear information is effective only in certain domains then current theories of phobias must be modified to incorporate the relative influence that information has in a particular domain. Of course, the failure to elicit changes in certain conditions might also reflect limitations of this exploratory paradigm. Perhaps the fear-belief questionnaire simply isn't reliable or sensitive enough to detect change or the paradigm maximizes on demand characteristics. For example, the fact that fear information has an effect in animal paradigms (Field et al., 2001, 2002,a,b) may be because these studies have used younger children and that the older children in the present study are less compliant to the demands of the experiment. However, given that Field et al. (2002b) have found effects of fear information about animals in older age groups (10–12) this, again seems unlikely. Our ongoing work is addressing the issue of using self-report measures of fear beliefs by using less consciously mediated measures such as the implicit association task (Greenwald, McGhee & Schwartz, 1998). One major difference between this paradigm and those used by Field et al. (2001, 2002a,b) is that these paradigms deliberately use novel stimuli so that the children do not have prior experiences of the stimuli that may protect against the effect of information whereas the current paradigm used situations with which the children were familiar. The social situations in this paradigm may have varied in their novelty: children have experience of eating and talking in small groups but relatively little (if any) experience of public speaking. Public speaking also differs from the other tasks in that it is the only one of the activities in which the attention of the audience is solely on the speaker and intrinsically involves evaluation. Indeed, Beidel (1991) found that socially phobic children of comparable age to the present study showed extreme behavioural avoidance and crying when faced with the task of giving an oral presentation. Future modifications could be to attempt to generate social situations of which the children are unlikely to have experience (for example meeting a celebrity).

Information from peers was expected to have an effect because peers seem to exert a greater influence at certain ages (e.g. Greenwood, Delquadri, & Hall, 1989) and peers and peer-

oriented activities become more important in adolescence (Steinberg, 1993). However, it's not clear why information wasn't effective when it came from an adult when Field et al. (2001) found that in children aged 7-9 years information from adults had an influence. Also, the direction of change after information from peers was unexpected: negative information *decreased* fear beliefs and positive information *increased* them. Therefore, the link between fear information and fear beliefs may not be as straightforward as has always been assumed. One explanation is that children compare their own behaviour, attributes and achievements with those of others. Festinger (1954) suggested that in situations in which no objective criteria of performance exist (such as in giving an oral presentation) people self-evaluate through comparisons with others: people identify certain individuals that they believe are similar or superior to themselves and make comparisons. Ruble and Flett (1988) found that children aged 7-11 preferred to make these social comparisons using the performances of their peers. As such, the children in the current study might identify with the children in the stories and make downward comparisons to them. When they hear a story about a child who has done particularly badly on an oral presentation (negative information), they believe they could do better, which decreases fear beliefs about that situation. Conversely, when they hear a story about a child who has done incredibly well in an oral presentation (positive information), they make upward comparisons (e.g. 'I'll never be as good as that'), which increase fear beliefs.

### Summary and Conclusions

This study has explored a paradigm with which the role of information in the development of social fear beliefs can be investigated. Although there is basic support for Rachman's (1977) idea that information affects fear beliefs, preliminary data suggest that the relationship between information and fear beliefs may not be as straightforward as first thought: the interaction between the type of information, who gives it, and the fear-relevant concerns of the children may be considerably more complex than we currently assume. Although paradigms such as the one suggested provide a useful means by which to investigate these complex relations, future work needs to refine the current paradigm by trying to find social situations about which children have little or no prior experience.

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## APPENDIX

### Appendix A: Stories

#### Positive Stories

*Public Speaking:* Jessica was about to give a five-minute talk in morning talk as part of the Amnesty presentation. She was very controlled and calm, as she knew she had prepared well for it. Not put off by the sea of faces in front of her she smiles and begins. Everything goes smoothly, even the use of the projector to show some maps of the area in question. Jessica is an animated speaker and the audience is captivated by what she is saying. Still smiling she concludes her part of the story and turns to take a seat. The school burst into a round of applause. She was a success!!

*Eating:* It's Katie's first day at a new school. Things are going ok, for a first day. At lunchtime she joins some new friends from her class to go to the dining hall together. Lunch that day is spaghetti bolognese and salad. They pick up their trays and take them to an empty table by the window. Katie chatters away to her new found friends as she eats, feeling quite happy. Everyone seems so nice! She thoroughly enjoys her lunch and as they clear their trays and leave, Katie decides she has made some firm friends.

*Group:* William has been asked to take time this afternoon to show a group of American exchange students around the school. They will be staying for a week and need to be told how to get around. The exchange students are particularly interested in the new Creative Arts department. William walks them round the school, chatting away quite happily and answering all their questions as best he can. William is pleased he agreed to show around these American

kids, they seemed very nice, and they certainly thought he was funny! Puffed up like a peacock, William spends the rest of the day boasting light heartedly to all his friends about how much the group of American students liked him.

### Negative Stories

*Public Speaking:* Jessica is giving a five-minute talk in front of the school as part of the Amnesty morning talk. She was feeling very nervous and didn't want to do it at all, but it was too late to change her mind. No one else had been able to do it and somehow she had been forced into it. Jessica was convinced she was going to stand up and make a fool of herself in front of the whole school by forgetting what she was supposed to be saying. Her palms were sweating, and she felt her heart beating fast and loud! As predicted it all went horribly wrong. The projector proved too difficult for Jessica to figure out with everyone watching and she dropped her notes all over the floor. Blushing furiously and on the verge of tears, Jessica knew she had just made herself look like a complete idiot in front of the whole school.

*Eating:* It was Katie's first day at a new school. When lunchtime came she joined some new friends from her class to go to the dining hall. Katie felt anxious about eating in front of other people. This anxiety grew even worse when she discovered that lunch was spaghetti bolognaise and salad! Spaghetti! She was bound to get it everywhere and embarrass herself totally. Katie didn't want to let on to her new friends that she was feeling nervous so she kept quiet and followed them to an empty table. She found it very hard to concentrate on the conversation around her as well as eating her food carefully. Katie was sure that if she made a mess of herself, the others would see her as stupid and immature. She became red with embarrassment when she had to take ages finishing a mouthful before she could answer a question one of the girls had asked her. Just as the meal was nearly over and she began to feel the relief of getting out of the dining hall, she dropped a massive forkful of bolognaise down her bright white top! Katie was devastated. She wasn't sure she could ever face her new friends again.

*Group:* William has been asked to show a group of exchange students from America round the school. They are staying for a week and need to know where everything is. The children seem

to be most interested in the new Creative Arts building, but William is not quite sure. He is starting to feel very nervous as he realises he is having difficulty understanding everything the children are saying to him. Rather than reveal his stupidity to them, William battles on, pretending he can understand everything they are saying. As time wears on he becomes more and more anxious and goes beet red every time he responds to something he doesn't understand. When William realises that he has just pointed out completely the wrong building, he groans. These kids must think he is completely crazy. Miserably he finishes the tour and leaves the Americans as soon as he can.

### Neutral Stories

*Public Speaking:* Jessica is giving a five-minute talk as part of the Amnesty morning talk. She has to use various slides and posters to demonstrate the things she is talking about. Her talk brings out particular aspects of the overall talk, which is being presented by a group of amnesty international members. The school claps as each group member, including Jessica, finish their small part. Jessica returns to her seat once her part is done.

*Eating:* It's Katie's first day at her new school. She joins a group of new friends from her class for lunch. They make their way to the dining room together. Lunch is spaghetti bolognaise and salad. The group heads for a table near a window. Katie joins in the chatter as she eats her lunch. Everyone is getting on like a house on fire on this first day. They all ask her who of the teachers she likes already and tell her the important things to watch out for with different teachers. Katie finishes all her lunch, she was surprisingly hungry. Everyone clears his or her trays before leaving the dining hall to go outside.

*Group:* William has been asked to show round a group of American exchange students who will be staying at the school for a week. He is to take them round the whole school, explaining all the buildings and answering any questions. The kids are most interested in the new Creative Arts building. William tells them all he knows about it's making and shows them where the old music school is. The group soon become accustomed to their surroundings and tell William they will be all right if he needs to get back to class. As they do seem to know where they are, William leaves them to settle in.

## Appendix B: Questions for the Social Fear Beliefs Questionnaire

1. Giving talks is a very unpleasant experience.
2. Meeting new groups of children is extremely nerve-wracking and embarrassing.
3. Eating in front of others makes you anxious /nervous.
4. Other children will laugh at you if you do something stupid whilst giving a talk to the class.
5. You like meeting new groups of children; they are usually very friendly and welcoming.
6. People will think you are stupid if you drop food when eating.
7. You get very embarrassed and start shaking when you have to give a presentation/talk.
8. When meeting new children you feel they will think you are crazy and weird if you say anything at all.
9. Having mealtimes with your friends is fun.
10. You are part of a morning talk on your favourite subject (i.e. snow boarding) and you feel very calm and in control.
11. Joining a group of strange children is a new and exciting experience of getting to know people.
12. It doesn't matter to anyone else if you are a messy eater.
13. Children who stand up and speak in front of others are brave.
14. You get so embarrassed when meeting a group of strangers that your palms sweat and you blush every time you speak.
15. Your friends will only think you are funny if you dribble chocolate sauce down your chin!
16. You volunteer to be part of a morning talk presentation because you think it will be fun.
17. When meeting a new group of children you feel confident they will like you.
18. You are very embarrassed at lunchtime when one of your friends points out the tomato ketchup on your left cheek.

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## FIGURES

- Figure 1: Graph to show the mean fear-belief scores before and after the presentation of positive, negative, or neutral information for the different social activities (means adjusted for FSSC—R scores). Panels show the data when a teacher presented the stories, when a peer presented the stories and when no information at all was given.



